



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,976	11/20/2001	Haviland Wright	DIS-P029	1715
27313	7590	02/09/2006	EXAMINER	
MARSH FISCHMANN & BREYFOGLE, LLP			HARRINGTON, ALICIA M	
3151 S. VAUGHN WAY				
SUITE 411			ART UNIT	PAPER NUMBER
AURORA, CO 80014				2873

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

S/

Office Action Summary	Application No.	Applicant(s)	
	09/989,976	WRIGHT ET AL.	
	Examiner	Art Unit	
	Alicia M. Harrington	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 18 November 2005.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-34 and 40-42 is/are pending in the application.
- 4a) Of the above claim(s) 2-14,25-34,40-42 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,15-24 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 March 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. 0206.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1 and 15-24 in the reply filed on 1/10/2005 is acknowledged. The traversal is on the ground(s) that each species is not mutually exclusive. On the contrary, the examiner points out there are unique embodiments provided with unique species, such as different display devices and light source arrangements. This is not found persuasive because the dependent claims provide varied arrangements/embodiments of the claimed invention. Claims which are dependent from claim 1 and withdrawn would be linked to an allowable claim 1 and likewise be allowable.

The requirement is still deemed proper and is therefore made FINAL.

2. Newly submitted claims 40-42 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 40-42 is directed to a location of the real and virtual images on the display. Claims 40-42 is directed to nonelected species IV.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 2-14, 25-34, and 40-42 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Response to Arguments

3. Applicant's arguments filed on 11/18/05 have been fully considered but they are not persuasive. Applicant argues the amended claim 1 is distinguishable over Popovich (WO 00/07058) because a mode (a second claimed mode) wherein the device produces a virtual image of the image generating arrangement produces the virtual image without producing a real image of the image generation arrangement, and Popovich produces a virtual image of a real image projected onto an intermediate screen (page 8 of applicant's remarks). However, the Examiner must respectfully disagree. Popovich illustrates in figure 1a, the configuration of the display that shows a real image in a public mode (see page 9). Figure 2a and 2b illustrates the configuration of the display (using a reflective-2a and refractive-2b optic element) for showing a virtual image in an embodiment of the private mode(see page 11). Figure 6a and 6b further illustrate the same display using a holographic display element (also using reflective and refractive elements) where a real image (in the plane of the display) 614 is displayed in public mode and a virtual image 615(projected toward or in front of the user for example-see page 14) is displayed in private mode that was created from the same image generation source (see figure 6b for illustration) via projection elements 605/603(see page 23). Thus, the private mode projection doesn't create the virtual image in the plane of the display 609 and meets the claimed limitation of not producing a real image in the mode of that produces a virtual image. Therefore Popovich clearly illustrates the claimed invention. In addition, the claimed invention doesn't have

sufficient structure to exclude the use of diffusive screen in aiding to project the virtual image. The rejection will be repeated.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 15-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites “the images being visible to a viewer when the device is operated in either or both of two modes”. The claim was amended to recite “a virtual image of the image generating arrangement without producing a real image of the image generation arrangement.” Thus claim 1 fails to particularly point out how the modes operate together and the Examiner is unclear as to what applicant constitutes is the claimed invention.

Claim 1 will be examined as best understood by the examiner.

Claims 15-24 inherit their indefiniteness from claim 1 from which they depend.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 15, 17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Popovich et al. (WO 00/07058).

Popovich discloses (see figure 6A below), as in claims 1, 15 and 17, a display device, comprising: an image-generating arrangement configured to reproduce images, the images being visible to a viewer when the device is operated in either or both of two modes, including a first mode wherein the device produces a real image (614) of the image-generating arrangement, and a mode wherein the device produces a virtual image (615) of the image-generating arrangement.

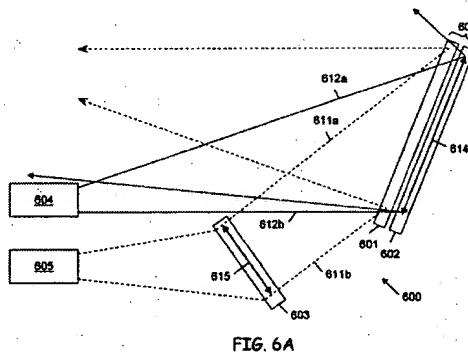


FIG. 6A

Popovich discloses, as in claim 19, an image screen (609, 614) upon which the real image of the image-generating arrangement appears when the device is operated in the first mode.

Again, Popovich illustrates in figure 1a, the configuration of the display that shows a real image in a public mode (see page 9). Figure 2a and 2b illustrates the configuration of the display (using a reflective-2a and refractive-2b optic element) for showing a virtual image in an embodiment of the private mode(see page 11). Figure 6a and 6b further

illustrate the same display using a holographic display element (also using reflective and refractive elements) where a real image (in the plane of the display) 614 is displayed in public mode and a virtual image 615(projected toward or in front of the user for example-see page 14) is displayed in private mode that was created from the same image generation source (see figure 6b for illustration) via projection elements 605/603(see page 23). Thus, the private mode projection doesn't create the virtual image in the plane of the display 609 and meets the claimed limitation of not producing a real image in the mode of that produces a virtual image. Therefore Popovich clearly illustrates the claimed invention. In addition, the claimed invention doesn't have sufficient structure to exclude the use of diffusive screen in aiding to project the virtual image.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 16 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Popovich et al. (WO 00/07058).

Popovich discloses the claimed invention; except for the limitation of a mode-selection arrangement includes a switch having at least two positions that allows an

operator of the device to select the desired image-review mode, as in claim 16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the optical device with a switch, which is well known and widely used, for the purpose of changing from one desired effect to another. Such motivation would likewise be desired to change from a real image to a virtual image.

Popovich discloses the claimed invention; except for the limitation of an image screen moveable between at least two positions, an active position for use when the first mode is in operation, and an inactive position for use when the first mode is not in operation, and sensing arrangement as in claims 20-22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide active and inactive positions as claimed for the purpose of power efficiency and storage.

Popovich discloses the claimed invention; except for the limitation of the image screen is polarized to reject at least a portion of the ambient light present in the device's operating environment, as in claim 23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the screen of Popovich with a polarized screen to provided better view of image.

Allowable Subject Matter

10. Claims 18,24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. The following is an examiner's statement of reasons for allowability: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of the independent claim(s), in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in claim(s) 18 and 24, wherein the claimed invention comprises proximity sensor (claim 18), an image screen having non-unity gain (claim 24) as claimed. The combination of all the claimed features are not anticipated or made obvious by the prior art and all of said features are relied upon for a determination of allowability.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Harrington whose telephone number is 571 272 2330. The examiner can normally be reached on Monday - Thursday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571 272 2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alicia M Harrington
Primary Examiner
Art Unit 2873


AMH